

# Work Order ID 98777

March-25-13 10:09:02 AM

**\*98777\***

Page 1

Item ID: D119-646-212 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: U/R Stop **\*NS2\***  
 Item Name: Skidtube STD w/ Training Wearplates, RH  
 Start Date: 3/25/13 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 3/25/13 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference: RA111502 - REWORK ECN13-534

Approvals: Process Plan: W Date: Tooling: Date: Run Start **\*NR1\***  
 QC: Date: SPC (Y/N): Date: Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
IIN-D119-646	B

100

0.00

225  
80  
13.4-9

**\*100\***

DC

Document Control

Memo

Photocopy bluefile & type labels per PPP D119-646-212  
 CHG004

<b>DART</b> Dart Aerospace Ltd. 1270 ABERDEEN ST. HAWKESBURY, ONT CANADA K6A 1K7				TC APPROVAL # 09-39 TEL: 1-877-332-6200	
P/N	D119-646-212	CHG	CHG002		
DESC.	Skidtube STD, RH	STC	SR02024SE		
LOT	B74793	STC			
MODEL	Agusta A119/AW119MKII	STC			
PATENTS US 7,575,180, CA 2,222,113 EUROPEAN No. 0,828,655				MADE IN CANADA 027292	

101

0.00

**\*101\***

HandFinish

Hand Finishing

Memo

RA11502  
 1 X D119-646-211 B74793  
 -REMOVE ALL HARDWARE, FWD & AFT CAPS AND WEARPLATES  
 (PUT ASIDE TO RE-INSTALL)  
 -STRIP ENTIRE TUBE PER CS1005

ML5 13-04-09

1x d ill 13/04/02

**B98777RH**

# Work Order ID 98777

**\*98777\***

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Item ID:	D119-646-212	Accept	<b>*N900040100*</b>	Setup	Start	<b>*NS1*</b>
Revision ID:	U/R				Stop	<b>*NS2*</b>
Item Name:	Skidtube STD w/ Training Wearplates, RH					
Start Date:	3/25/13	Start Qty:	1.00	Cust Item ID:		
Required Date:	3/25/13	Req'd Qty:	1.00	Customer:		
Reference:	RA111502 - REWORK ECN13-534					

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	<b>*NR1*</b>
	QC:	Date:	SPC (Y/N):	Date:		Stop	<b>*NR2*</b>

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
102		0.00							
<b>*102*</b>									
Skidtubes	Memo	0.00							
Skidtubes	-LOCATE BOTH FWD HOLES AS PER DEO-D3887-B-1 & ECN12-675, DRILL AS PER DRWG -INSTALL CROSSBOLT SPACERS AS PER DEO-D3887, WELD PER QSI004 ROD B <u>M122324</u> -BUFF AND DEBURR WELDS COUNTERSINK FWD MOST HOLES TO 0.385 X 100DEG ON BOTH SIDES PER DSI 9594 DEBUR HOLES per DSI9594								
103	QC10- Inspect visual per QSI004- ground welds	0.00							
<b>*103*</b>									
QC	Memo	0.00							
Quality Control									

>SAD 13-04-03

BE 13-04-03

} SAD 13-04-04

13-04-04

DAS  
09  
9-88

Work Order ID 98777

\*98777\*

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March-25-13 10:09:02 AM

Item ID: D119-646-212

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID: U/R

Stop \*NS2\*

Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 3/25/13 Start Qty: 1.00 \*1\*

Cust Item ID:

Required Date: 3/25/13 Req'd Qty: 1.00 \*1\*

Customer:

Reference: RA111502 - REWORK ECN13-534

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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104

QC5- Inspect part completeness to step on W/O

0.00

\*104\*

QC

Memo

0.00

Quality Control

27  
B44

105

Chemical Conversion Coat per QSI005 4.1

0.00

\*105\*

HandFinish

Memo

0.00

Hand Finishing

RE-ALODINE

1 7613-44

106

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

\*106\*

Powdercoat

Memo

0.00

Powder Coating

RE-POWDER COAT

1Xp m/f 13/04/05

Start Time: 10:30  
Temp: 320°F  
Finish Time: 11:00

M124245

# Work Order ID 98777

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Revision ID: U/R Stop **\*NS2\***  
Item Name: Skidtube STD w/ Training Wearplates, RH  
Start Date: 3/25/13 Start Qty: 1.00 **\*1\*** Cust Item ID:  
Required Date: 3/25/13 Req'd Qty: 1.00 **\*1\*** Customer:  
Reference: RA111502 - REWORK ECN13-534

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
107	QC3- Inspect Part Finish	0.00							
<b>*107*</b>									
QC	Memo	0.00							
Quality Control									
108	Wing Walk as per dwg QSI005 4.4 Batch <u>M124376</u>	0.00							
<b>*108*</b>									
HandFinish	Memo	0.00							
Hand Finishing									
109	QC3- Inspect Part Finish	0.00							
<b>*109*</b>									
QC	Memo	0.00							
Quality Control									

IRH d M 13/04/08

IRH d M 13/04/08

DAS  
16  
2-53 13/04/08



**Work Order ID 98777**

March-25-13 10:09:02 AM

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Item ID: D119-646-212 Accept **\*N900040100\*** Setup Start **\*NS1\***  
Revision ID: U/R Stop **\*NS2\***  
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Start Date: 3/25/13 Start Qty: 1.00 **\*1\*** Cust Item ID:  
Required Date: 3/25/13 Req'd Qty: 1.00 **\*1\*** Customer:  
Reference: RA111502 - REWORK ECN13-534

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 <b>*120*</b> QC Quality Control	QC4- 100% Inspect kits for completeness  Memo	0.00 0.00				1			
130 <b>*130*</b> Packaging Packaging	RE-PACKAGE USING NEW B/N ADD DSI 9594 Identify and pack for shipping as per PPP D119-646-212 Location: _____ PPP rev: _____	0.00 0.00		SHIP					
140 <b>*140*</b> QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00 0.00							

# Picklist Print

March-25-13 10:09:01 AM

Page 1

Work Order ID: 98777

Parent Item: D119-646-212

Start Date: 3/25/13

Required Date: 3/25/13

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP RevA: New issue DD verified by:EC  
644 DD verf:JLM IPP Rev:B 12.09.12 as per ECN12-  
IPP REV:C 12.11.05 raise to chg003 (ECN 12-675) DD verf:JLM IPP  
REV:D 13.03.20 raise to chg004 (ECN 13-534) DD verf:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D119-646-212		Manufactured	No				Each	0.0000		1			
Skidtube STD w/ Training Wearplates, RH													
D2579		Manufactured	No				Each	90.0000		2			
Crossbolt Spacer													

MTA 3 NE 13-4-9  
BE 13/04/03

Location	Loc Qty	Loc Code
LG001	45	
62400	22	
70761	3	
72199	1	
72672	7	
78371	12	
LG002	45	
92473	45	

MS24694-C52  
Screw

Purchased No

Each 182.0000

Location	Loc Qty	Loc Code
ST301	182	
124291	82	
124308	100	

M 2 13/04/08  
X2

RA11562

## Returned D119 skids for reworking

D119-646-212

98777

Batch # B74793

CHG # 002

☐ yes ☐ no

☒ ☐

Was the box the skid tube returned in damaged  
if yes describ

☐ ☒

Was the skid tube damaged?  
What was damaged

☐ ☒

Does it need to be repair and replaced

☒ ☐

Is the tube the correct part (LH/RH)

☒ ☐

Is the "k" kit returned with the skid tube  
if yes B# 74791 CHG002

☐ ☒  
☒ ☐

Was the kit opened  
Was it re verified

☒ ☐  
☒ ☐

Test fit Saddles caerfully. Fwd & Aft  
Do the Fit

### WHAT RE WORK DO THEY NEED

☒ ☐

Do the need Fwd cap holes counter sunk

☒ ☐

Do the need the extra ground handling holes installed

☒ ☐

Do they need Both

Inspected By \_\_\_\_\_

Date \_\_\_\_\_



DRAWING NO. D3887	TITLE A119 STD SKIDTUBE ASSY	REV. B	<b>DART AEROSPACE LTD ENGINEERING ORDER</b>	D.E.O. NO. D3887-B-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN AJS	CHECKED <i>q</i>	MFG. APPR. <i>q</i>	APPROVED <i>q</i>	DE APPR. <i>q</i>		
DATE 12.10.29	DATE 12.10.29	DATE 12.10.30	DATE 12.10.30	DATE 12.10.30		

**PURPOSE:**

MODIFICATION OF EXISTING DESIGN TO ALLOW INSTALLATION OF CROSSBOLT SPACERS FOR FORWARD GROUND HANDLING EQUIPMENT.

**PARTS LIST:**

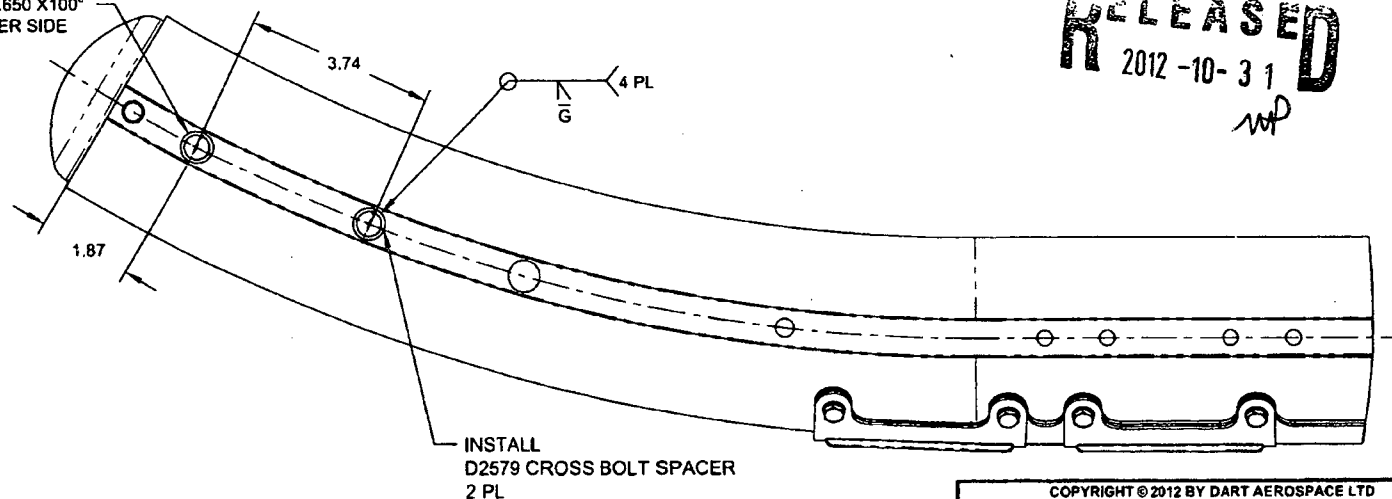
ADD THE FOLLOWING:

ITEM	QTY. -041	QTY. -043	QTY. -045	PART NUMBER	DESCRIPTION
	X			D3887-041	STD SKIDTUBE ASSY WITH WEARPAD
		X		D3887-043	STD SKIDTUBE ASSY WITH WEARPLATE
			X	D3887-045	STD SKIDTUBE ASSY WITH TRAINING WEARPLATE

10	2	2	2	D2579	CROSS BOLT SPACER
----	---	---	---	-------	-------------------

ADD THE DRILLING DETAIL BELOW TO DRILLING INFORMATION (SHEETS 5 & 6):  
ADD CROSSBOLT SPACER INSTALLATION INFORMATION TO -041 THRU -045 (SHEETS 2 - 4):

DRILL Ø0.500 THRU  
CSK Ø0.650 X100°  
2 PL PER SIDE



**RELEASED**  
2012-10-31  
*mp*

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DRAWING NO. D3887	TITLE A119 STD SKIDTUBE ASSY	REV. B	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D3887-B-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN AJS	CHECKED <i>q</i>	MFG. APPR. <i>q</i>	APPROVED <i>q</i>	DE APPR. <i>q</i>			
DATE 12.10.29	DATE 12.10.29	DATE 12.10.30	DATE 12.10.30	DATE 12.10.30			

**PURPOSE:**

MODIFICATION OF EXISTING DESIGN TO ALLOW INSTALLATION OF CROSSBOLT SPACERS FOR FORWARD GROUND HANDLING EQUIPMENT.

**PARTS LIST:**

ADD THE FOLLOWING:

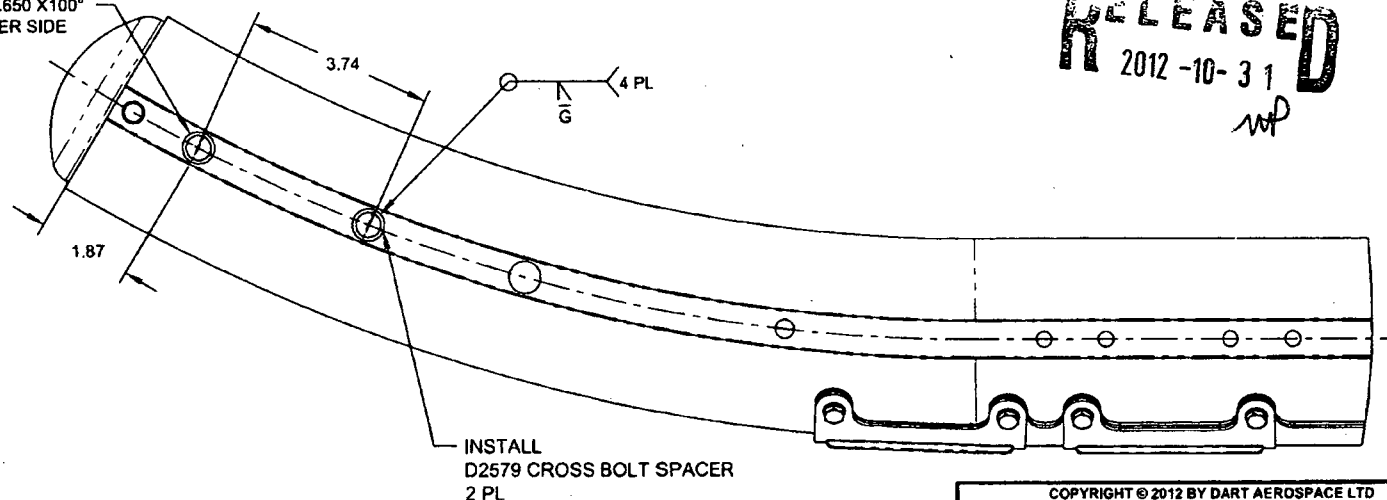
ITEM	QTY. -041	QTY. -043	QTY. -045	PART NUMBER	DESCRIPTION
	X			D3887-041	STD SKIDTUBE ASSY WITH WEARPAD
		X		D3887-043	STD SKIDTUBE ASSY WITH WEARPLATE
			X	D3887-045	STD SKIDTUBE ASSY WITH TRAINING WEARPLATE

10	2	2	2	D2579	CROSS BOLT SPACER
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DRILL Ø0.500 THRU  
CSK Ø0.650 X100°  
2 PL PER SIDE



RELEASED  
2012-10-31  
*mp*

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# DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D119-646 REV. B,  
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D119-646 REV. 1 OR EARLIER,  
REF. FAA STC SR02024SE

## 1.0 PURPOSE

The purpose of this DSI is to provide instructions for customers to modify the forward end of the D119-646-XXX skidtubes using the DSI 9594-011 Kit to make the skidtubes compatible with the Agusta ground handling wheels. One kit modifies 2 skidtubes. After CHG 001, portions of this modification may have been incorporated in production and therefore will not need to be incorporated in the field.

## 2.0 PROCEDURE

Modify the skidtubes as follows:

- 2.1 Rotate the D3407-041 Tow Ring to the vertical position as necessary.
- 2.2 Mark holes in the center ridge as shown in Figure 1. Drill through skidtube with Ø0.500" (12.7 mm drill), and countersunk to Ø0.650 x 100°, two places per side.
- 2.3 Remove and discard the hardware retaining the forward Cap. Countersink the existing holes to Ø0.385 x 100°.
- 2.4 Deburr holes. Touch up affected areas with chemical film material (Alodine 1200 or 1201) per MIL-C-5541.
- 2.5 Bond D2579 spacers into the Ø0.500 holes center in the skidtube using Magnobond 6398. Grind flush prior painting as shown in Figure 1.
- 2.6 Apply one coat of MIL-P-85582 or MIL-P-2337 primer and 2-3 coats of MIL-C-83285 polyurethane coat to match original finish.
- 2.7 Fasten the forward Cap using MS24694-C52 Screws. Seal threads with Proseal 890. Ensure that screw heads sit below skidtube surface
- 2.8 Repeat steps 2.1 to 2.7 for opposite skidtube.

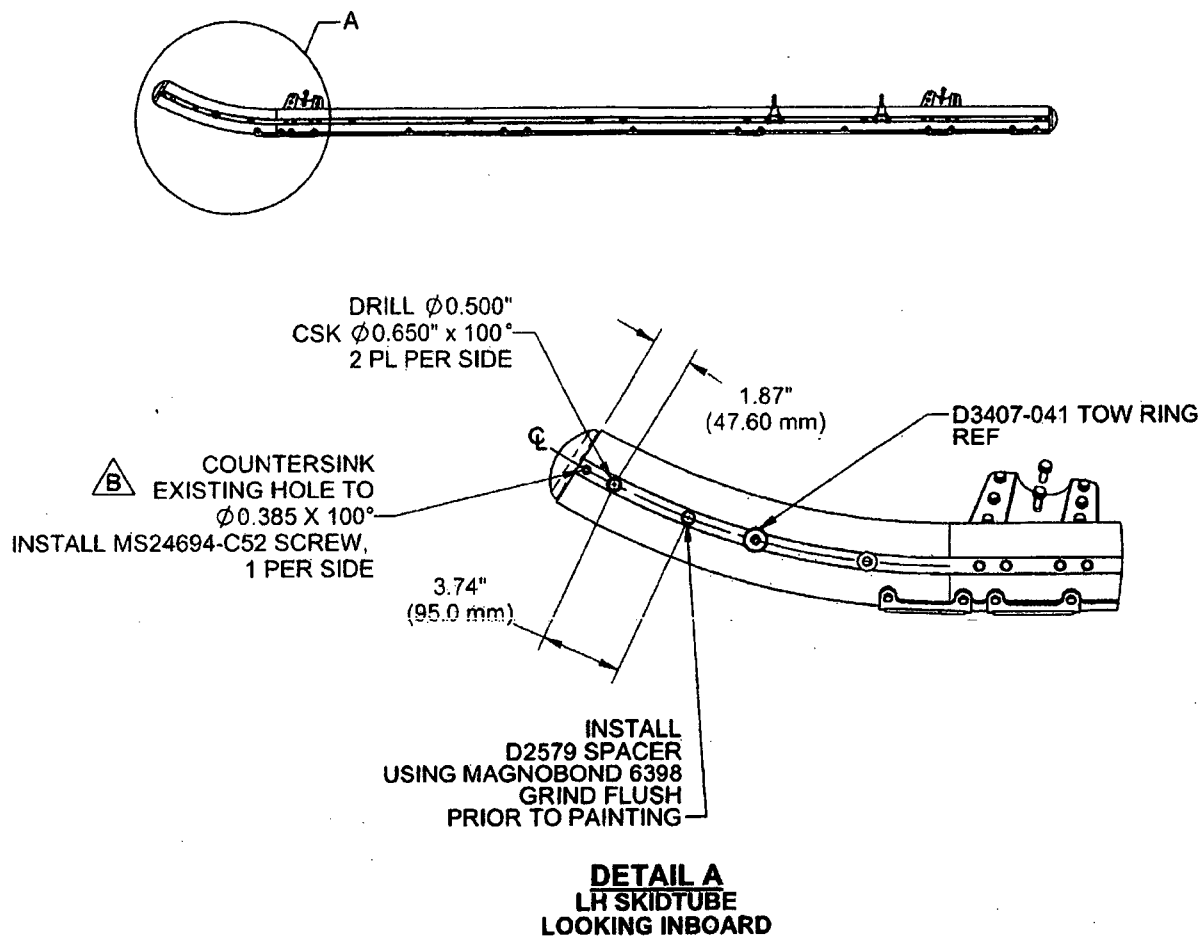
## 3.0 PART LIST

Qty -011	PART NUMBER	DESCRIPTION
X	DSI 9594-011	FWD GROUND HANDLING SPACER KIT
4	D2579	CROSS BOLT SPACER
4	MS24694-C52	SCREW

## 4.0 WEIGHT AND BALANCE

This modification has negligible effect on weight and balance.

B	ADD INSTRUCTION TO REMOVE EXISTING CAP MOUNTING HARDWARE AND REPLACE WITH COUNTERSUNK SCREWS	DB	13.02.20
A	NEW ISSUE	RF	12.02.03
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED	MB	DRAWING NO.	REV. B
MFG. APPR.	N/A	DSI 9594	SHEET 1 OF 2
APPROVED		TITLE	SCALE
DE APPR.		FWD GROUND HANDLING SPACER KIT	NTS
DATE	13.02.20	<small>COPYRIGHT © 2012 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	



**FIGURE 1. MODIFIED D119-646-XXX SKIDTUBE**

DESIGN	RF	<b>DART AEROSPACE USA, INC</b>	
DRAWN	DB	KENT, WA	
CHECKED	MB	DRAWING NO.	REV. B
MFG. APPR.	N/A	<b>DSI 9594</b>	SHEET 2 OF 2
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	<b>FWD GROUND HANDLING SPACER KIT</b>	NTS
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Linda Lacelle

PAU1502

**From:** Eric Downing  
**Sent:** March-22-13 3:50 PM  
**To:** Linda Lacelle; Melanie Fauteux; Cathy Kerr  
**Cc:** Patrick Smith; Sian Willems; Marc Bellavance; Lisa McMachen; Nigel Forbes  
**Subject:** Returned D119 skids  
**Attachments:** Check Sheet For retruned D119 skids B74791.xlsx; Check Sheet For retruned D119 skids B74793.xlsx; Check Sheet For retruned D119 skids B91588.xlsx; Check Sheet For retruned D119 skids B91559.xlsx; Check Sheet For retruned D119 skids B91623.xlsx; Check Sheet For retruned D119 skids B91624.xlsx

Linda / Mel

## Work Scheme for the returned D119 skids from Agusta

- On 4 tubes the fwd. cap will need to be reworked as per the DSI
  - Remove and scrap both An3C-5A bolts and washers
  - Counter sink hole as per DSI
  - Touch up alodine as per QSI005
  - Touch up powder coat as per QSI005 with imron paint
  - Install screw per DSI
- On tubes with B74791 & B74793 this work is required
  - Remove all hard wear
    - Both end caps and all wear plates
  - Strip entire tube as per QSI 005
    - Locate both FWD holes as per DSI & ECN Drill as per drawing
    - Install cross bolt spacers as per DSI
    - Weld as per QSI004 A/R \_\_\_\_\_
    - Buff welds and deburr
    - Counter sink FWD end cap holes
  - Re alodine tube as per QSI 005
  - Re powder coat tube as per QSI005
  - Re wing-wak as per QSI005
  - Re assemble as per Drawing and per DSI

98774  
98775  
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98779

Thanks

**Eric Downing**

**QC Corrdinator**

T: 1-613-632-5200 ext 223

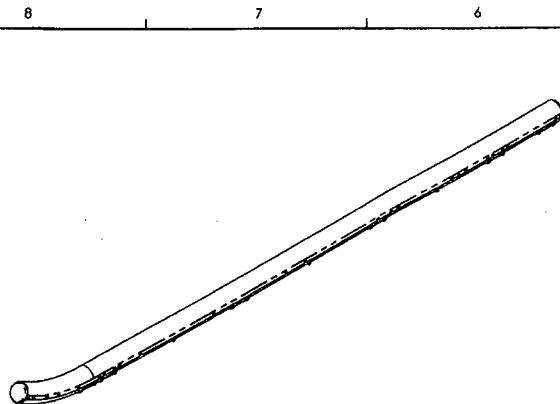
C: 1-613-363-9375

F: 1-613-632-5246

[www.dartaero.com](http://www.dartaero.com)

[Edowning@Dartaero.com](mailto:Edowning@Dartaero.com)





**D3887-041 STANDARD SKIDTUBE ASSY WITH WEARPAD (SHOWN)**  
**D3887-043 STANDARD SKIDTUBE ASSY WITH WEAPLATE (SIMILAR)**  
**D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE (SIMILAR)**

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3885-1 WEB  
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D3887-041 = 32.0 lbs  
D3887-043 = 37.0 lbs  
D3887-045 = 38.1 lbs
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:  
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 8.5 INCHES  
ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP 0.020" DEEP IN THE BENT  
PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT  
PORTION OF THE TUBE.
- 10) INSERT D3885-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE  
WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP
- 11) INSERT D3492-045 PLUG ASSY INTO  $\phi 0.197$  HOLES (BOTH SIDES OF TUBE)
- 12) USE DART DRILL TEMPLATE DT8931 TO LOCATE AND DRILL  $\phi 0.297$  HOLES FOR WEARPLATE INSERTS.  
INSTALL AELS-1032-130 INTO D3887-11 ONLY. INSTALL AN3C5A BOLTS AND NAS1149C0332R WASHERS  
WITH SIKAFLEX-241/-291.

ITEM	QTY -041	QTY -043	QTY -045	P/N	DESCRIPTION
1	X			D3887-041	STD SKIDTUBE ASSY WITH WEARPAD
2		X		D3887-043	STD SKIDTUBE ASSY WITH WEARPLATE
3			X	D3887-045	STD SKIDTUBE ASSY WITH TRAINING WEARPLATE
10	2	2	2	D2579	CROSS BOLT SPACER
11	2	2	2	D2855-3	CAP
12	16	16		D3492-045	PLUG ASSY
13	2	2	2	D3672-1	PHENOLIC WASHER
14	8	8	8	D3681-1	SPACER
15	5			D3846-1	GASKET
16	1			D3846-11	GASKET
17	5	5		D3847-1	WEARPAD
18	1	1		D3847-11	AFT WEARPAD
19		1		D3847-043	FWD WEARPLATE ASSY
20		1		D3847-045	CENTER WEARPLATE ASSY
21		1		D3847-047	AFT WEARPLATE ASSY
22			1	D3849-041	FWD TRAINING WEARPLATE ASSY
23			1	D3849-043	AFT WEARPLATE ASSY
24	1	1	1	D3885-1	STANDARD WEB
25	1	1		D3887-11	STANDARD SKIDTUBE
26			1	D3887-13	STANDARD SKIDTUBE
27	12	12	12	D3903-1	SPACER
28			16	D3904-1	WASHER
41	30	30		ALS4-1032-130	INSERT
42	32	32	2	AN3C5A	BOLT
43			8	AN3C46A	BOLT
44	32	32		NAS1149C0332R	WASHER (OR AN960C10L)
45			8	MS21043-3	NUT
46	2	2	2	MS24694-C52	SCREW

**RELEASED**  
 2013-03-19

C	(SHT1, P/L, ZN C2-2, C3-2, C4-2) ITEM 13, QTY 2 WAS 4, ITEM 42, QTY 32 WAS 34, ITEM 44, QTY 30 WAS 32, ADD ITEM 46, MS24694-C52 WAS AN3C5A, 2 PLCS, (ZN C1-5, C1-6, B4-7) $\phi 0.201$ CSK $\phi 0.385 \times 100"$ WAS $\phi 0.214$ THRU, ADDED DETAIL F (ZN C6-5, C6-6, B8-7), ADD ITEM 10, D2579 CROSS BOLT SPACER (ZN B4-1, A6-7)	DB	13.02.19
B	ALS4-1032-130 WAS AELS-1032-130 (ZN C4-1, C5-7, C3-7); ADD DT8931 (ZN A8-1); ADD 134.04 (ZN C4-8); D2855-3 WAS D2579 (ZN D4-1, C7-2, C2-2, C7-3, C2-3, C7-4, C2-4); AN3C5A WAS AN3C4A (ZN C6-5, C2-2, C6-3, C2-3, C6-4, C2-4); $\phi 0.313$ WAS $\phi 0.328$ (ZN C4-5, C4-5, C2-7 & B3-7) REVISED NOTE W (ZN B3-7)	RF	09.06.30
A	NEW ISSUE	RF	09.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	DB	KENT, WA	
CHECKED	AJS	DRAWING NO.	REV. C
MFG. APPR.	DS	D3887	SHEET 1 OF 8
APPROVED	14	TITLE	SCALE
DE APPR.	14	A119 STD SKIDTUBE ASSY NTS	
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AN3CSA BOLT  
D3672-1 PHENOLIC WASHER  
NAS1149C0332R WASHER  
(1 PER SIDE)

SEAL WITH  
SIKAFLEX-241/291

D2855-3 CAP

D3846-11  
GASKET

D3847-11  
WEARPAD

BLACK ANTI-SKID TO 0.5  
ABOVE LOCATION RIDGE  
TYP

11  
Ø0.197  
8 PL PER SIDE  
REF

2.00 DISTANCE TO D3885-1 WEB, REF

AN3CSA BOLT  
NAS1149C0332R WASHER  
24 PL

PLUG UNUSED INSERTS WITH  
AN3CSA BOLT  
NAS1149C0332R WASHER  
6 PL

D3846-1  
GASKET  
5 PL

D3847-1  
WEARPAD  
5 PL

D2855-3 CAP

SEAL WITH  
SIKAFLEX-241/291

MS24694-C52 SCREW  
(1 PER SIDE)

**D3887-041 STANDARD SKIDTUBE ASSY WITH WEARPAD**  
(MAKE FROM D3887-11)

RELEASED  
2013-03-19  
MD

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MFG. APPR.	DB	D3887	SHEET 2 OF 8
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DE APPR.	DB	A119 STD SKIDTUBE ASSY	NTS
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AN3C5A BOLT  
D3672-1 PHENOLIC WASHER  
NAS1149C0332R WASHER  
(1 PER SIDE)

SEAL WITH  
SIKAFLEX-241/291

D2855-3 CAP

D3847-11  
WEARPAD

D3847-047  
AFT WEARPLATE ASSY

AN3C5A BOLT  
NAS1149C0332R WASHER  
30 PL

D3847-045  
CENTER WEARPLATE ASSY

D3847-043  
FWD WEARPLATE ASSY

D3847-1  
WEARPAD  
5 PL

BLACK ANTI-SKID TO 0.5  
ABOVE LOCATION RIDGE  
TYP

11  
Ø 0.197  
8 PL PER SIDE  
REF

1.5 1.5 1.5 1.5

D2855-3 CAP

SEAL WITH  
SIKAFLEX-241/291

MS24694-C52 SCREW  
(1 PER SIDE)

**D3887-043 STANDARD SKIDTUBE ASSY WITH WEARPLATE**  
(MAKE FROM D3887-11)

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2013-03-19

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MFG. APPR.	NS	D3887	SHEET 3 OF 8
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DE APPR.	NS	A119 STD SKIDTUBE ASSY	NTS
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AN3C5A BOLT  
D3672-1 PHENOLIC WASHER  
NAS1149C0332R WASHER  
(1 PER SIDE)

SEAL WITH  
SIKAFLEX-241/291

D2855-3 CAP

AN3C46A BOLT  
D3804-1 WASHER, 2 PL  
MS21043-3 NUT  
8 PL

BLACK ANTI-SKID TO 0.5  
ABOVE LOCATION RIDGE  
TYP

2.00 DISTANCE TO D3885-1 WEB

D3849-043  
AFT TRAINING WEARPLATE ASSY

D3849-041  
FWD TRAINING WEARPLATE ASSY

1.5 D2855-3 CAP

SEAL WITH  
SIKAFLEX-241/291

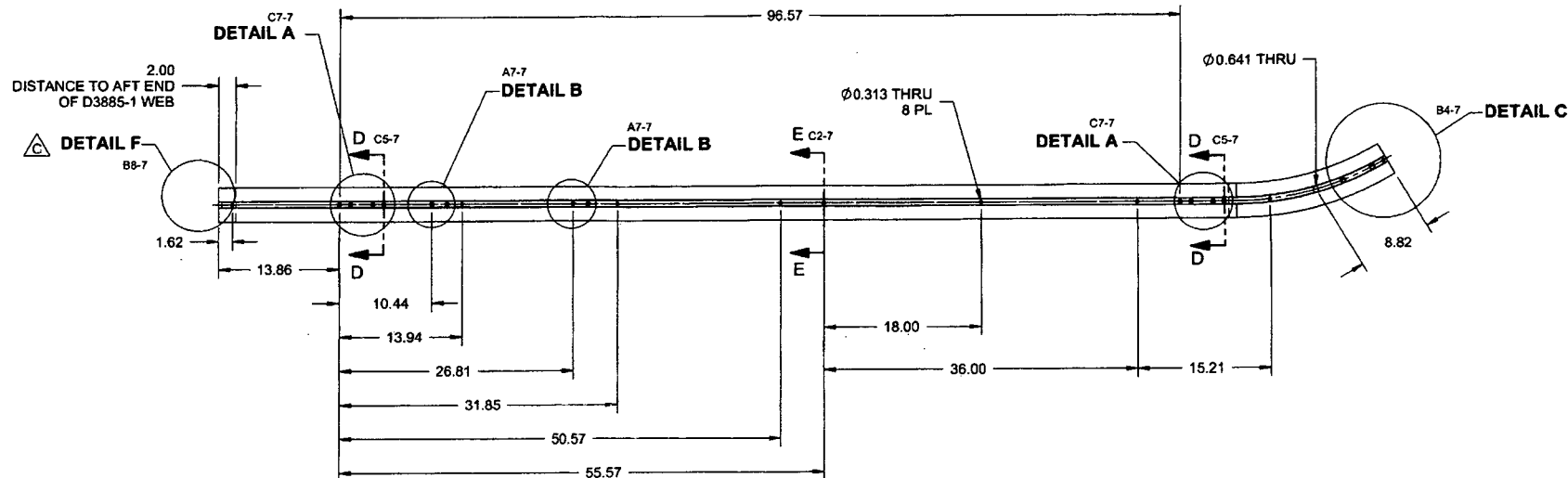
MS24694-C52 SCREW  
(1 PER SIDE)

**D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE**  
(MAKE FROM D3387-13)

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CHECKED	ALS	DRAWING NO. D3887	REV. C
MFG. APPR.	11	SHEET 4 OF 8	
APPROVED	11	TITLE A119 STD SKIDTUBE ASSY	SCALE NTS
DE APPR.	11	COPYRIGHT © 2008 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS UNCLASSIFIED AND IS RELEASED ON THE EXPRESS OR IMPLICIT UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	
DATE	13.02.19		

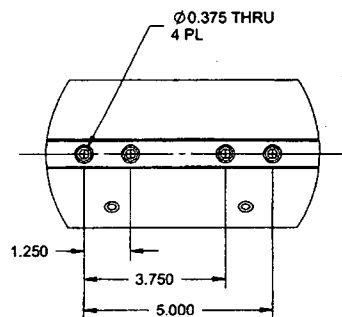




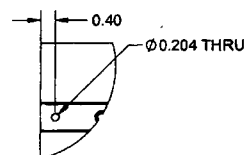
**D3887-13 DRILLING DETAIL**  
(MAKE FROM D3887-1)

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2013-03-19

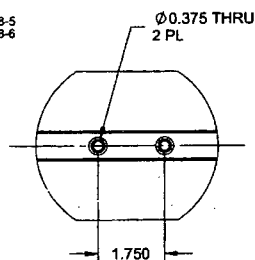
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CHECKED	<i>AJS</i>	DRAWING NO. D3887	REV. C
MFG. APPR.	<i>N</i>		SHEET 6 OF 8
APPROVED	<i>W</i>	TITLE	SCALE
DE APPR.	<i>W</i>	A119 STD SKIDTUBE ASSY	NTS
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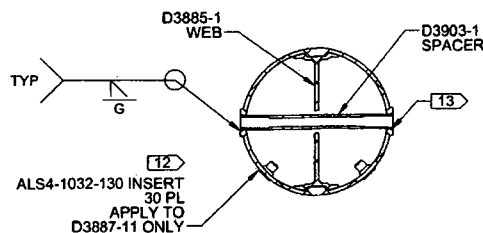
**DETAIL A**  
SCALE 4X  
D7-5  
C3-5  
D7-6  
C3-6



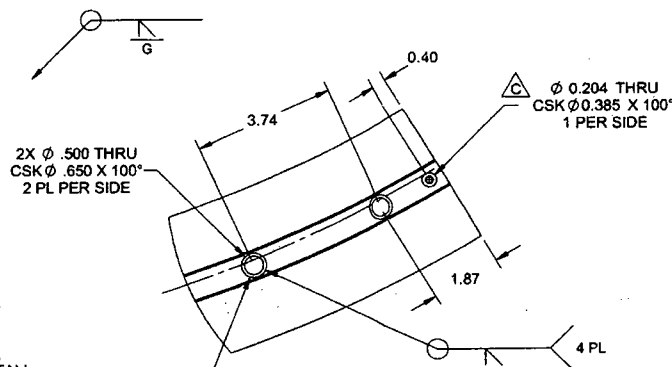
**DETAIL F**  
SCALE 4X  
C8-5  
C8-6



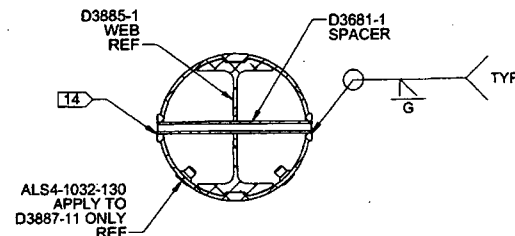
**DETAIL B**  
SCALE 4X  
C8-5  
C5-5  
C8-6  
C5-6



**SECTION D-D**  
SCALE 4X  
(FOR 12 X Ø0.375 HOLES  
PER SKIDTUBE)  
C7-5  
C3-5  
C7-6  
C2-6



**DETAIL C**  
TYPICAL  
SCALE 4X  
C1-5  
C1-6



**SECTION E-E**  
SCALE 4X  
(FOR 8 X Ø0.313 HOLES  
PER SKIDTUBE)  
C4-5  
C4-6

**NOTES:**

13) AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:

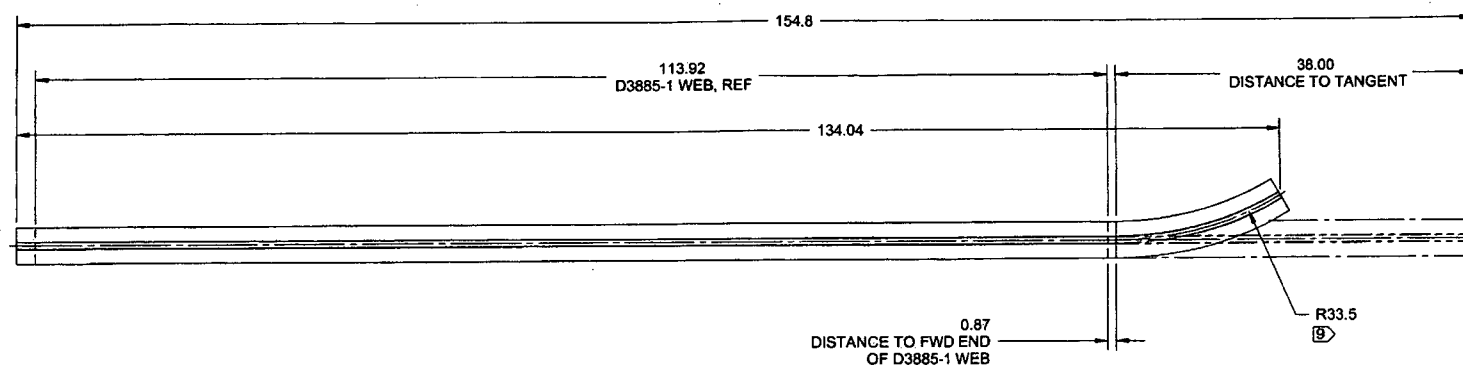
- i) CHAMFER HOLES Ø0.475 x 45°
- ii) INSERT D3903-1 SPACER
- iii) WELD INTO PLACE AND GRIND FLUSH
- iv) C'BORE TO 0.313 x 0.75 DEEP
- v) DEBURR HOLES

14) AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR Ø0.313 HOLES ONLY:

- vi) CHAMFER HOLES Ø0.354 x 45° OR 0.050 DEEP x 45° (BOTH SIDES)
- vii) INSERT D3681-1 SPACER
- viii) WELD INTO PLACE AND GRIND FLUSH
- ix) DEBURR HOLES

**RELEASE**  
2013-03-19

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
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MFG. APPR.	DB	<b>D3887</b>	SHEET 7 OF 8
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**D3887-1 BEND DETAIL**  
(MAKE FROM D2500-1-190 EXTRUSION)

RELEASED  
2013-03-19  
MP

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DRAWN	DB	KENT, WA	
CHECKED	ALS	DRAWING NO.	REV. C
MFG. APPR.	DB	D3887	SHEET 8 OF 8
APPROVED	DB	TITLE	SCALE
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